

AGRICULTURAL EDUCATION AND EXTENSION
SERVICE COOPERATE TO PROVIDE IN-SERVICE
RANGE SCIENCE PREPARATION

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College training and personal past experience provide the primary sources of teaching material for vocational agriculture teachers. Many beginning teachers complain that they feel poorly prepared to teach various topics. Time and the experience that time provides can help overcome this feeling of inadequacy. However, some subject matter areas that should be included in vocational agriculture curricula do not lend themselves to learning through experience--they are too broad or too complex. Gaining sufficient competence in these subjects to include them in a vocational agriculture program requires not only the desire to master the subject and the willingness to study, but also instruction from qualified "experts."

Range management is one such subject. Most states west of and including the plains states have large acreages of rangeland. These lands provide considerable forage for grazing livestock--a most important western agricultural industry. In Utah, for instance, 86% of the land is classified as range, and livestock grazing on rangeland is the state's largest agricultural industry. Rangelands are complex ecological systems and success in range management requires the application of both scientific knowledge and one's "feeling about the land." (Range management is defined in textbooks as the "science and art" of manipulating rangeland to provide products and values for man.)

Many vocational agriculture teachers have acquired some scientific knowledge about range management either through introductory college courses or reading. But few have an adequate "feel" for the land. They, therefore, tend to avoid such concepts as range site (kind of rangeland capable of producing a potential kind or amount of vegetation), range condition (what vegetation is presently being produced on a range site in relation to potential production for the site), or range trend (direction of change in range condition). Explaining how these somewhat vague ecological concepts relate to management decisions (how many animals can graze on a range site for how long without causing an undesirable change in range condition?) is even more difficult. But if vocational

agriculture programs are to do justice to the Western livestock industry, these problems of teaching range management must be overcome.

In 1976, the Departments of Agricultural Education, Range Science, and the Extension Services at Utah State University developed a program that has helped prepare vocational agriculture teachers in Utah to teach range management. The technique used was a week-long summer workshop for teachers that combined classroom and field activities. This workshop was more successful than previous range management training sessions because Extension Range Specialists from Utah, Wyoming, Oregon, Arizona, New Mexico, and Colorado served as workshop instructors. Extension specialists are well suited for this kind of activity because they regularly work with youth and they characteristically utilize field situations in many of their educational programs.

Bringing in Extension specialists from many states provided many benefits not attainable with just local specialists (or, in many states, the only local specialist). Major benefits included access to: (1) diverse knowledge of the several specialists, (2) teaching aids used in youth programs in the different states, (3) successful teaching methods used by the specialists in their home state programs, and (4) an opportunity to develop "hybrid" teaching methods and aids by combining the best aspects of each specialist's presentation. Similar benefits should accrue to most disciplines when vocational agriculture needs are combined with Extension expertise.

Five topics were emphasized in the workshop. These topics were usually introduced with a classroom discussion that was followed by field demonstrations. The major topics were:

Introduction (definition of rangeland, use of rangelands, meaning of range management, career opportunities in range management)

Range Plants (how plants grow, plant identification, grazing values of plants, plant collection)

Range Evaluation (identifying range sites, evaluating range condition and trend, determining range forage production)

Range Management (how to determine proper stocking for range, how to achieve proper distribution throughout a pasture, how to improve a pasture in poor condition, how to maintain improved range through proper grazing practices) and

Range Livestock Management (range nutrition, how to improve range breeding programs, how to increase production from range livestock).

Appropriate teaching methods and visual aids were demonstrated as each topic was discussed. When possible the appropriate teaching aids were provided to the teachers. When aids were not available for distribution, teachers were helped to develop materials for use in their classrooms.

The workshop was headquartered at the Great Basin Experiment Station near Ephraim, in central Utah. Housing (inside with hot and cold running water and beds) was in an aspen grove at an 8,000 ft. elevation. Short drives could take participants to salt desert shrub, sagebrush-grass, pinyon-juniper woodland, oak brush, aspen and conifer understory, mountain meadow, and subalpine, range communities. Wildlife used almost all of the area. Livestock operations and range improvements were available for study. It was a near-perfect location for this type of workshop.

The fifteen vocational agriculture teachers who attended the 1976 workshop rated it as one of the best in-service training programs they had attended. The workshop was repeated in 1977 and some of the original fifteen teachers came back for additional study.

The success with this cooperative effort suggests that agricultural education cannot afford to allow Extension and vocational agriculture efforts to go their separate ways. There are many subject matter areas in which similar cooperative efforts could pay rich dividends. The Range Science Workshop conducted in Utah is one example.

Utah State University, recognizing the mutual interests and potential benefits, is beginning a joint Extension and agricultural education research effort. Extension agents and vocational agriculture teachers will be asked to identify producers prior to definition of educational needs that could best be served through the combined efforts of extension and agricultural educators.

While agricultural education and Extension are frequently working partners in local fairs and field days, it is time to aggressively pursue expanded joint efforts to serve agricultural industry.